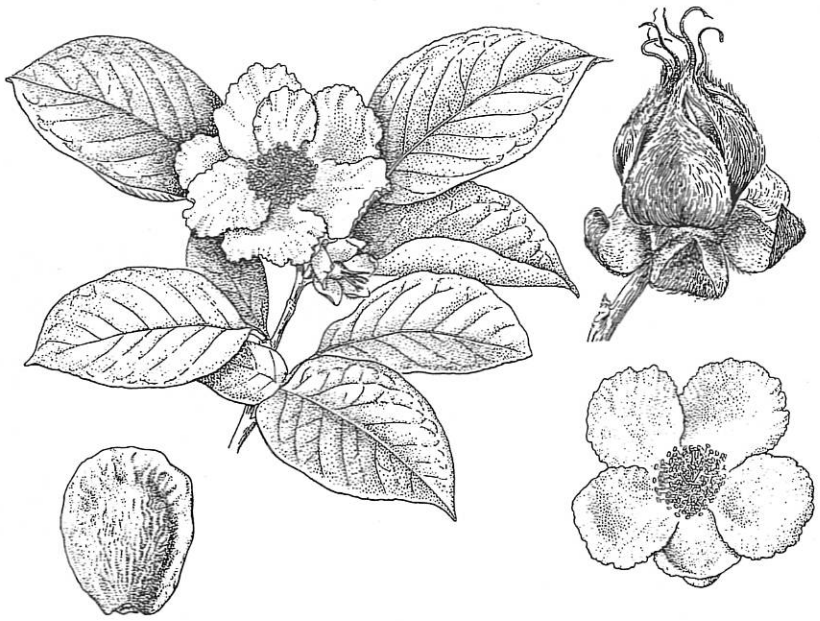
Studying the stunning *Stewartia*

Of the little-known genera of woody plants that have become increasingly popular ornamentals during the last thirty years, the species of *Stewartia* are among my personal favorites, a sentiment shared by Polly. Over our many years of friendship, Stewartias have always been a topic for discussion and correspondence. While I authored a taxonomic revision of the genus (published in 1974), Polly concentrated on bringing together a comprehensive collection. As a consequence the genus is well represented in the PHA collections with seven species, one interspecific hybrid, and nine selections that Polly has named and introduced as cultivars. It should be mentioned that while the species, particularly *S. pseudocamellia*, have become increasingly well known, the selection of superior forms as cultivars has not kept pace. To my knowledge, only thirteen cultivars have been introduced, but an impressive nine of these have originated at this Arboretum!



Botanical drawings of Stewartia ovata *showing a flowering branchlet of f.* grandiflora, *a single flower of the typical form, its woody capsule, and a solitary seed. Note that the flowers of f.* grandiflora *have more than five petals.*

While *Stewartia* cultivars could be the subject of these notes, I choose instead to focus on the species themselves. Two, *Stewartia malacodendron* and *S. ovata* (along with its forma *grandiflora*) are native to the southeastern United States, while the remaining five cultivated at the PHA are native to regions of eastern Asia. *Stewartia ovata*, sometimes known as mountain stewartia, occurs naturally in the mountains and on the adjacent Piedmont of North and South Carolina, Georgia, Alabama, Kentucky, and Tennessee. It is also known from two isolated stations on the Coastal Plain of Virginia. By contrast, *S. malacodendron* is native to the Coastal Plain and Piedmont of Virginia south to northern Florida and west to Arkansas and eastern Texas. The Asian species include *S. sinensis* and *S. rostrata* from southeastern and central China, *S. monadelpha* and *S. serrata* from southern Honshu, Kyushu, and Shikoku in Japan, and the most widely cultivated species, *S. pseudocamellia*, which is native to Japan in much of Kyushu, Shikoku, and Honshu and the southern Korean peninsula. An interspecific hybrid between *S. pseudocamellia* and *S. monadelpha* known as *S. x henryae* has arisen in cultivation and is also cultivated at the PHA.

Many of the *Stewartia* species appear to be interfertile, and hybrids are rather commonplace when plants are grown from seeds collected at sites where several species are growing in close proximity. This factor should be taken into consideration when purchasing Stewartias from commercial sources, inasmuch as the old "buyers beware" adage is applicable. Try to determine if the plants available for sale have been propagated by vegetative means or from seed and if so, the source of the seed. It could mean the difference between purchasing the species you are seeking versus obtaining an undesirable hybrid lacking the ornamental attributes you desire.

All of the species growing at the PHA are deciduous, but an additional species known in cultivation, the Chinese *Stewartia pteropetiolata*, is evergreen and can be grown only in climes warmer than those prevalent on the Vineyard. Additional deciduous and several evergreen species indigenous to China and southeastern Asia remain to be introduced into western horticulture. Over time and because of their evergreen habit, some species have been segregated into the genus *Hartia*. However, they are true Stewartias and should be included in that genus.

The two American species and *Stewartia rostrata* from China produce bark that is finely furrowed and silvery-gray or grayish-brown, while the remaining Asian species produce smooth, reddish-brown or cinnamon-colored to purplish-brown exfoliating, often mottled bark. As a consequence, these latter species are splendid ornamentals, providing year-round interest and beauty in the landscape. But it is in early summer that the ornamental attributes of Stewartias are most obvious, as this is the time of year they begin to flower.

During the 2001 season at the Arboretum, Polly and I were extremely disappointed when the Stewartias failed to flower. Normally, these small trees and large shrubs commence flowering

toward the end of June and continue into July, a period when few other ornamental trees and shrubs are in bloom. But last season, not a flower was to be seen. While we have no decisive explanation for this phenomenon, we have speculated that the flower buds on new growth were aborted in early May, when we experienced several days with temperatures in the nineties followed by a frost when temperatures plummeted to 26 degrees. While history has been known to repeat itself, we do not anticipate a similar situation this coming season. Rather, we look forward to the annual floral display of Stewartias and encourage you to visit the PHA to enjoy their elegance.

As the specific epithet of *Stewartia pseudocamellia* suggests, its flowers as well as those of all the species are similar in appearance to that of a single camellia. The genus – along with *Camellia* and *Franklinia* – is a member of the tea family, Theaceae. The five petals of each flower are creamy white and scallop-shaped in outline, and those of *S. serrata* (the rarest species in cultivation), *S. rostrata*, and *S. malacodendron* are tinged with red at the base. The numerous stamens of each flower are united into a tubular structure at the base, and the anthers are a golden yellow. The anther filaments of most species are creamy white, but those of *S. malacodendron* and *S. ovata* f. *grandiflora* produce purplish-blue filaments that create a stunning contrast with the white petals.

The fruits that develop if pollination is successful are woody capsules with five locules or chambers, each locule producing either two or four narrowly-winged seeds. Fruit production tends to be heavy, and the pointed capsules add interest to the plants in winter as they frequently persist on the naked branches throughout the cold months.

Species of *Stewartia* are distinguished from one another by a combination of characters that include habit, bark, foliage features, flower and fruit structure and pubescence, and the number of ovules (seeds) produced in each locule. For readers interested in further information on the genus, a key for the identification of the species, and the propagation of Stewartias by seed and by cuttings, reprints of an article I co-authored with the late Alfred J. Fordham and published in *Arnoldia* are available. Just stop by the Visitors' Center or drop a postcard in the mail requesting a copy of the article. These reprints will be available until the supply is exhausted. But by all means, come to the PHA in late June and early July to see for yourself why Polly and I count this genus among our personal favorites.

– S. A. Spongberg